

APPENDIX 2

David J. Perreault

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RESEARCH INTERESTS

Circuit Design, Power Electronics and Energy Conversion, Electromechanics, Control

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Doctor of Philosophy in Electrical Engineering, June 1997.

Thesis on the modeling, design and control of cellular power converter systems.

Master of Science in Electrical Engineering and Computer Science, September 1991.

Thesis on the design of software for interactive computer support of geographically-separated design teams.

BOSTON UNIVERSITY COLLEGE OF ENGINEERING

Bachelor of Science in Electrical Engineering (Summa Cum Laude), May 1989.

HONORS

IEEE Convergence Fellowship in Transportation Electronics	1993
IEEE Richard M. Bass Outstanding Young Power Electronics Engineer Award <i>(IEEE Power Electronics Society, for outstanding achievement in the field of power electronics by an engineer less than 35 years of age.)</i>	2001
US Office of Naval Research Young Investigator Award	2002
The Ruth and Joel Spira Award for Distinguished Teaching <i>(MIT Department of Electrical Engineering and Computer Science)</i>	2003
The Carl Richard Soderberg Professorship of Power Engineering <i>(MIT School of Engineering, Appointment July 2003 – July 2006)</i>	2003
The William M. Portnoy Prize Paper Award <i>(Awarded by the Power Electronics Devices and Components Committee of the IEEE Industry Applications Society)</i>	2003
The Junior Bose Award for Excellence in Teaching <i>(MIT School of Engineering)</i>	2004

IEEE Power Electronics Society Transactions Prize Paper Award (for the paper “Filters with Active Tuning for Power Applications”)	2004
The Emanuel E. Landsman Career Development Professor of Electrical Engineering and Computer Science (MIT EECS, Appointment July 2004 – June 2007)	2004
SAE Ralph R. Teetor Educational Award (Society of Automotive Engineers, “for contributions to teaching, research and student development”)	2005
IEEE Power Electronics Society Transactions Prize Paper Award (for the paper “Resistance Compression Networks for Radio-Frequency Power Conversion”)	2008
IEEE Power Electronics Society PESC Conference Prize Paper Award (for the paper “A Very High Frequency dc-dc Converter based on the Class Phi-2 Resonant Inverter”)	2008

Member of the Tau Beta Pi and Sigma Xi honor societies

PROFESSIONAL APPOINTMENTS

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Department of Electrical Engineering and Computer Science
Assistant Professor July 2001 – June 2003
Associate Professor July 2003 – Present

Research responsibilities include setting research directions and objectives, writing proposals to sponsoring organizations, carrying out theoretical and experimental research, supervising graduate students, and interfacing with sponsors. My present objectives include addressing the critical challenges arising in the processing and control of electrical energy through fundamental advances over the state of the art.

Laboratory for Electromagnetic and Electronic Systems
Research Scientist Sept. 1999 – June 2001

Responsibilities included setting research directions and objectives, writing proposals to sponsoring organizations, carrying out theoretical and experimental research, supervising graduate students, and interfacing with sponsors. Lead multiple research programs with funding from both government and industrial sponsors.

Postdoctoral Associate June 1997 – Aug. 1999

Research on the design and control of power conversion systems for industrial and automotive applications. Responsibilities included setting research goals, carrying out theoretical and experimental research, supervising graduate students, and interfacing with research sponsors. As part of this work, I led a major effort on the design of automotive power electronics and supervised three Master’s degree theses.

INDUSTRIAL AND CONSULTING EXPERIENCE

Engineering Consultant 1989 – Present

Engineering consulting in the areas of power electronics, analog and digital circuit design, and control for a wide range of local and international companies. Recent consulting activities include work for Lutron Electronics; Busek Inc.; EIC, Inc.; and Candela Corp. among others.

Technical Expert for Legal Cases 2002 – Present

Consulting as a technical expert and/or advisor in the area of power electronics intellectual property and other legal cases. Relevant cases include

- VLT, Inc. and Vicor, Inc. v. Lambda Electronics (2002-2003)
- Access Cardiosystems, Inc., et al v. Fincke (2006)
- Vicor Corp. v. Continental Casualty Corp. et al (2008)

TEACHING EXPERIENCE

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Department of Electrical Engineering and Computer Science

Lecturer Spring 1998 - Present

Graduate course "Power Electronics," Spring 1998 – Present

Undergraduate course "Circuits and Electronics," Fall 2001, 2003, 2004, 2005, 2007, 2009

Graduate course "Advanced Topics in Power Electronics," Fall 2002, Fall 2008

Teaching Assistant

Graduate course "Power Electronics," Spring 1993, Spring 1996

Undergraduate course "Introductory Digital Design Lab," Fall 1989, Spring 1990

PATENTS

1. A.M. Stankovic, G.C. Verghese, and D.J. Perreault, "Markov Chain Controlled Random Modulation of Switching Signals in Power Converters," U.S. Patent No. 5,510,698, April 23, 1996.
2. D.J. Perreault and V. Caliskan, "Dual Output Alternator System," U.S. Patent No. 6,239,996, May 29, 2001.
3. D.J. Perreault and V. Caliskan, "Load Matched Alternator System," U.S. Patent No. 6,346,797, Feb. 12, 2002.
4. D.J. Perreault and V. Caliskan, "Alternator Jump Charging System," U.S. Patent No. 6,456,514, Sept. 24, 2002.
5. D.J. Perreault and S. Mogren, "Magnetic Stimulator Power and Control Circuit," U.S. Patent No. 6,551,233, April 22, 2003.
6. D.J. Perreault and V. Caliskan, "Load Matched Alternator System with Fault Protection," U.S. Patent No. 6,671,195, December 30, 2003.

7. D.J. Perreault and V. Caliskan, "Load Matched Alternator System with Fault Protection," U.S. Patent No. 6,900,997, May 31, 2005.
8. T.A. Keim and D.J. Perreault, "Alternator Control Circuit and Related Techniques," U.S. Patent No. 6,912,142, June 28, 2005.
9. D.J. Perreault, J.W. Phinney, and T.C. Neugebauer, "Filter Having Parasitic Inductance Cancellation," U.S. Patent No. 6,937,115, August 30, 2005.
10. D.J. Perreault, T.C. Neugebauer, and J.W. Phinney "Filter Having Parasitic Inductance Cancellation," U.S. Patent No. 7,242,269, July 10, 2007.
11. R. Weightman, A. Dobbins, D.J. Perreault, J.P. Steiner, and C.M. Wu, "Power Supply for a Load Control Device," US Patent No. 7,423,413, September 9, 2008.
12. I. Celanovic, J.G. Kassakian, and D.J. Perreault, "Vertical-Cavity Enhanced Resonant Thermal Emitter," US Patent No. 7,482,610, January 27, 2009.
13. D.J. Perreault, J.M. Rivas, Y. Han, O. Leitermann, "Resistance Compression Networks for Resonant Power Conversion," US Patent No. 7,535,133, May 19, 2009.
14. R. Weightman, A. Dobbins, D.J. Perreault, J.P. Steiner, and C.M. Wu, "Power Supply for a Load Control," US Patent No. 7,564,227, July 21, 2009.
15. D.J. Perreault and B.J. Pierquet, "Method and Apparatus to Provide Compensation for Parasitic Inductance of Multiple Capacitors," US Patent No. 7,589,605, Sept. 15, 2009

BOOKS AND CHAPTERS

D.J. Perreault, K.K. Afridi, and I.A. Khan, "Automotive Applications of Power Electronics," in *The Power Electronics Handbook*, M.H. Rashid, Ed., Academic Press, 2001, pp. 791-813. (Also in Second Edition, published 2006.)

JOURNAL PAPERS

1. D.J. Perreault and J.G. Kassakian, "Effects of Firing Angle Imbalance on 12-Pulse Rectifiers with Interphase Transformers," *IEEE Transactions on Power Electronics*, Vol. 10, No. 3, May 1995, pp. 257-262.
2. A.M. Stankovic, G.C. Verghese, and D.J. Perreault, "Analysis and Synthesis of Randomized Modulation Schemes for Power Converters," *IEEE Transactions on Power Electronics*, Vol. 10, No. 6, Nov. 1995, pp. 680-693.
3. A.M. Stankovic, G.C. Verghese, and D.J. Perreault, "Randomized Modulation of Power Converters via Markov Chains," *IEEE Transactions on Control Applications*, Vol. 5, No. 1, Jan. 1997, pp. 61-73.
4. D.J. Perreault and J.G. Kassakian, "Analysis and Control of a Cellular Converter System With Stochastic Ripple Cancellation and Minimal Magnetics," *IEEE Transactions on Power Electronics*, Vol. 12, No. 1, Jan. 1997, pp. 145-152.
5. D.J. Perreault and G.C. Verghese, "Time-Varying Effects and Averaging Issues in Models for Current-Mode Control," *IEEE Transactions on Power Electronics*, Vol. 12, No. 3, May 1997, pp. 453-461.

6. D.J. Perreault and J.G. Kassakian, "Distributed Interleaving of Paralleled Power Converters," *IEEE Transactions on Circuits and Systems - I*, Vol. 44, No. 8, Aug. 1997, pp. 728-734.
7. D.J. Perreault, R.L. Selders, and J.G. Kassakian, "Frequency-Based Current-Sharing Techniques for Paralleled Power Converters," *IEEE Transactions on Power Electronics*, Vol. 13, No. 4, July 1998, pp. 626-634.
8. D.J. Perreault and J.G. Kassakian, "Design and Evaluation of a Cellular Rectifier System with Distributed Control," *IEEE Transactions on Industrial Electronics*, Vol. 46, No. 3, June 1999, pp. 495-503.
9. A.M. Stankovic, D.J. Perreault, and K. Sato, "Synthesis of Dissipative Nonlinear Controllers for Series Resonant DC/DC Converters," *IEEE Transactions on Power Electronics*, Vol. 14, No. 4, July 1999, pp. 673-682.
10. D.J. Perreault, K. Sato, R.L. Selders, and J.G. Kassakian, "Switching-Ripple-Based Current Sharing for Paralleled Power Converters," *IEEE Transactions on Circuits and Systems - I*, Vol. 46, No. 10, Oct. 1999, pp. 1264-1274.
11. J. Phinney and D.J. Perreault, "Filters with Active Tuning for Power Applications," *IEEE Transactions on Power Electronics*, Vol. 18, No. 2, March 2003, pp. 636-647.
12. A.C. Chow and D.J. Perreault, "Design and Evaluation of a Hybrid Passive/Active Ripple Filter with Voltage Injection," *IEEE Trans. Aerospace and Electronic Systems*, Vol. 39, No. 2, April 2003, pp. 471-480.
13. T.C. Neugebauer and D.J. Perreault, "Computer-Aided Optimization of DC/DC Converters for Automotive Applications," *IEEE Transactions on Power Electronics*, Vol. 18, No. 3, May 2003, pp. 775-783.
14. V. Caliskan, D.J. Perreault, T.M. Jahns, and J.G. Kassakian, "Analysis of Three-Phase Rectifiers with Constant-Voltage Loads," *IEEE Transactions on Circuits and Systems - I*, Vol. 50, No. 9, Sept. 2003, pp. 1220-1226.
15. T.C. Neugebauer, D.J. Perreault, J.H. Lang, and C. Livermore, "A Six-Phase Multilevel Inverter for MEMS Electrostatic Induction Machines," *IEEE Transactions on Circuits and Systems - II*, Vol. 51, No. 2, Feb. 2004, pp. 49-56.
16. T.C. Neugebauer, J.W. Phinney, and D.J. Perreault, "Filters and Components with Inductance Cancellation," *IEEE Transactions on Industry Applications*, Vol. 40, No. 2 March/April 2004, pp. 483-490.
17. I. Celanovic, F. O'Sullivan, M. Ilak, J. Kassakian, and D. Perreault, "Design and Optimization of One-Dimensional Photonic Crystals for Thermophotovoltaic Applications," *Optics Letters*, Vol. 29, No. 8, April 15, 2004, pp. 863-865.
18. T.C. Neugebauer and D.J. Perreault, "Filters with Inductance Cancellation Using Printed Circuit Board Transformers," *IEEE Transactions on Power Electronics*, Vol. 19, No. 3, May 2004, pp. 591-602.
19. D.J. Perreault and V. Caliskan, "Automotive Power Generation and Control," *IEEE Transactions on Power Electronics*, Vol. 19, No. 3, May 2004, pp. 618-630.
20. P. Cantillon-Murphy, T.C. Neugebauer, C. Brasca, and D.J. Perreault, "An Active Ripple Filtering Technique for Improving Common-Mode Inductor Performance," *IEEE Power Electronics Letters*, Vol. 2, No. 2, June 2004, pp. 45-50. **

21. J.M. Rivas, D.J. Perreault, and T.A. Keim, "Performance Improvement of Alternators with Switched-Mode Rectifiers," *IEEE Transactions on Energy Conversion*, Vol. 19, No. 3, Sept. 2004, pp. 561-568.**
22. G. Hassan, D.J. Perreault, and T.A. Keim, "Design of Dual-Output Alternators with Switched-Mode Rectification," *IEEE Transactions on Power Electronics*, Vol. 20, No. 1, Jan. 2005, pp. 164-172.**
23. M. Zhu, D.J. Perreault, V. Caliskan, T.C. Neugebauer, S. Guttowski, and J.G. Kassakian, "Design and Evaluation of Feedforward Active Ripple Filters," *IEEE Transactions on Power Electronics*, March 2005, pp. 276-285.
24. S.C. Tang, T.A. Keim, and D.J. Perreault, "Thermal Modeling of Lundell Alternators," *IEEE Transactions on Energy Conversion*, Vol. 20, No. 1, March 2005, pp. 25-36.
25. I. Celanovic, D.J. Perreault, and J.G. Kassakian, "Resonant-Cavity Enhanced Thermal Emission," *Physical Review – B*, Vol. 72, No. 075127, August 2005, pp. 1-6.
26. T.A. Parlikar, W.S. Chang, Y.H. Qiu, M.D. Seeman, D.J. Perreault, J.G. Kassakian, and T.A. Keim, "Design and Experimental Implementation of an Electromagnetic Engine Valve Drive," *IEEE Transactions on Mechatronics*, Vol. 10, No. 5, October 2005, pp. 482-494.
27. T.C. Neugebauer and D.J. Perreault, "Parasitic Capacitance Cancellation in Filter Inductors," *IEEE Transactions on Power Electronics*, Vol. 21, No. 1, pp. 282-288, Jan. 2006.
28. J.M. Rivas, J.M., J. Shafran, R.S. Wahby, and D.J. Perreault, "New Architectures for Radio-Frequency dc-dc Power Conversion," *IEEE Transactions on Power Electronics*, Vol. 21, No. 2, pp. 380-393, March 2006.
29. Y. Han and D.J. Perreault, "Analysis and Design of High Efficiency Matching Networks," *IEEE Transactions on Power Electronics*, Vol. 21, No. 5, pp. 1484-1491, Sept. 2006.
30. D.S. Lymar, T.C. Neugebauer, and D.J. Perreault, "Coupled-Magnetic Filters with Adaptive Inductance Cancellation," *IEEE Transactions on Power Electronics*, Vol. 21, No. 6, pp. 1529-1540, Nov. 2006.
31. B.J. Pierquet, T.C. Neugebauer, and D.J. Perreault, "Inductance Compensation of Multiple Capacitors with Application to Common- and Differential-Mode Filters," *IEEE Transactions on Power Electronics*, Vol. 21, No. 6, pp. 1815-1824, Nov. 2006. (Also, see "Corrections to Inductance Compensation of Multiple Capacitors with Application to Common- and Differential-Mode Filters," *IEEE Transactions on Power Electronics*, Vol. 22, No. 1, pp. 346-347, Jan. 2007.)
32. Y. Han, O. Leitermann, D.A. Jackson, J.M. Rivas, and D.J. Perreault, "Resistance Compression Networks for Radio-Frequency Power Conversion," *IEEE Transactions on Power Electronics*, Vol. 22, No.1, pp. 41-53, Jan. 2007.
33. J.W. Phinney, D.J. Perreault, and J.H. Lang, "Synthesis of Lumped Transmission-Line Analogs," *IEEE Transactions on Power Electronics*, Vol. 22, No. 4, pp. 1531-1542, July 2007.

34. J.W. Phinney, D.J. Perreault, and J.H. Lang, "Radio-Frequency Inverters with Transmission-Line Input Networks," *IEEE Transactions on Power Electronics*, Vol. 22, No. 4, pp. 1154-1161, July 2007.
35. J.R. Warren, K.A. Rosowski, and D.J. Perreault, "Transistor Selection and Design of a VHF dc-dc Power Converter," *IEEE Transactions on Power Electronics*, Vol. 23, No. 1, pp. 27-37, Jan. 2008.
36. J.M. Rivas, J.M., Y. Han, O. Leitermann, A.D. Sagneri, and D.J. Perreault, "A High-Frequency Resonant Inverter Topology with Low Voltage Stress," *IEEE Transactions on Power Electronics*, Vol. 23, No. 4, pp. 1759-1771, July 2008.
37. B.J. Pierquet, T.C. Neugebauer, and D.J. Perreault, "A Fabrication Method for Integrated Filter Elements with Inductance Cancellation," *IEEE Transactions on Power Electronics* Vol. 24, No. 3, pp. 838-848, March 2009.
38. R.C.N. Pilawa-Podgurski, A.D. Sagneri, J.M. Rivas, D.I. Anderson, and D.J. Perreault, "High-Frequency Resonant Boost Converters," *IEEE Transactions on Power Electronics*, Vol. 24, No. 6, pp. 1654-1665, June 2009.
39. P.A. Godoy, D.J. Perreault, and J.L. Dawson, "Outphasing Energy Recovery Amplifier with Resistance Compression for Improved Efficiency," *IEEE Transactions on Microwave Theory and Techniques*, Vol. 57, No. 12, pp. 2895-2906, Dec. 2009.
40. S.C. Tang, D.M. Otten, T.A. Keim, and D.J. Perreault, "Design and Evaluation of a 42 V Automotive Alternator with Integrated Switched-Mode Rectifier," *IEEE Transactions on Energy Conversion*, (to appear).

CONFERENCE PAPERS

1. D.J. Perreault and J.G. Kassakian, "Interactive Computer Support of Geographically Separated Design Teams," *1992 IEEE International Conference on Computer Systems and Software Engineering*, The Hague, The Netherlands, May 1992, pp. 127-132.
2. D.J. Perreault and R.D. Thornton, "Power Electronics for Linear Synchronous Motor Propulsion Systems," *13th International Conference on Magnetically Levitated Systems and Linear Drives*, Argonne, IL, May 1993, pp. 374-379.
3. A.M. Stankovic, G.C. Verghese, and D.J. Perreault, "Analysis and Synthesis of Random Modulation Schemes for Power Converters," *IEEE Power Electronics Specialists Conference Record*, Seattle, WA, June 1993, pp. 1068-1074.
4. D.J. Perreault and J.G. Kassakian, "Effects of Firing Angle Imbalance on 12-Pulse Rectifiers with Interphase Transformers," *IEEE Power Electronics Specialists Conference Record*, Seattle, WA, June 1993, pp. 1075-1080.
5. D.J. Perreault, J.G. Kassakian, and H. Martin, "A Soft-Switched Parallel Inverter Architecture with Minimal Output Magnetics," *IEEE Power Electronics Specialists Conference Record*, Taipei, ROC, June 1994, pp. 970-977.
6. J.G. Kassakian and D.J. Perreault, "An Assessment of Cellular Architectures for Large Converter Systems" (invited), *Proceedings of the First International Power Electronics and Motion Control Conference*, Beijing, PRC, June 1994, pp. 70-79.
7. D.J. Perreault, H. Martin, R. Selders, and J.G. Kassakian, "Loss Modeling and Component Selection for Resonant Pole Inverters," *Proceedings of the 29th*

Universities Power Engineering Conference, Galway, Ireland, Sept. 1994, pp. 622-625.

8. D. J. Perreault and G.C. Verghese, "Time-Varying Effects in Models for Current-Mode Control," *IEEE Power Electronics Specialists Conference Record*, Atlanta, GA, June 1995, pp. 621-628.
9. A.M. Stankovic, G.C. Verghese, and D.J. Perreault, "Randomized Modulation Schemes for Power Converters Governed by Markov Chains," *1995 Conference on Control Applications*, Albany, NY, Sept. 1995.
10. D.J. Perreault, R.L. Selders, and J.G. Kassakian, "Frequency-Based Current-Sharing Techniques for Paralleled Power Converters," *1996 IEEE Power Electronics Specialists Conference*, Baveno, Italy, June 1996, pp. 1073-1079.
11. D.J. Perreault and J.G. Kassakian, "Distributed Interleaving of Power Converters," *1996 Power Electronics and Motion Control Conference*, Budapest, Hungary, Sept. 1996, pp. 2/149 - 2/153.
12. D.J. Perreault, R.L. Selders, and J.G. Kassakian, "Implementation and Evaluation of a Frequency-Based Current-Sharing Technique for Cellular Converter Systems," *1996 IEEE Africon*, Stellenbosch, South Africa, Sept. 1996, pp. 682-686.
13. A.M. Stankovic, D.J. Perreault, and K. Sato, "Analysis and Experimentation with Dissipative Nonlinear Controllers for Series Resonant DC/DC Converters," *1997 IEEE Power Electronics Specialists Conference*, St. Louis, MO, June 1997, pp. 679-685.
14. D.J. Perreault, J.G. Kassakian, and G.C. Verghese, "Stability Analysis of Nonlinear Current-Sharing Techniques," *1997 IEEE Power Electronics Specialists Conference*, St. Louis, MO, June 1997, pp. 665-671.
15. D.J. Perreault, K. Sato, and J.G. Kassakian, "Switching-Ripple-Based Current Sharing for Paralleled Power Converters," *1997 Power Conversion Conference*, Nagaoka, Japan, Aug. 1997, pp. 473-478.
16. D.J. Perreault and J.G. Kassakian, "Design and Evaluation of a Cellular Rectifier System," *1998 IEEE Power Electronics Specialists Conference*, Fukuoka, Japan, May 1998, pp. 790-797.
17. A. Garg, D.J. Perreault, and G.C. Verghese, "Feedback Control of Paralleled Symmetric Systems, with Applications to Nonlinear Dynamics of Paralleled Power Converters," *1999 IEEE International Symposium on Circuits and Systems*, Orlando, FL, May 1999, pp. 192-195.
18. V. Caliskan, D.J. Perreault, T.M. Jahns, and J.G. Kassakian, "Analysis of Three-Phase Rectifiers with Constant-Voltage Loads," *1999 IEEE Power Electronics Specialists Conference*, Charleston, SC, June 1999, pp. 715-720.
19. M. Zhu, D.J. Perreault, V. Caliskan, T.C. Neugebauer, S. Guttowski, and J.G. Kassakian, "Design and Evaluation of an Active Ripple Filter with Rogowski-Coil Current Sensing," *1999 IEEE Power Electronics Specialists Conference*, Charleston, SC, June 1999, pp. 874-880.
20. T.C. Neugebauer and D.J. Perreault, "Computer-Aided Design and Optimization of dc/dc Converters for Automotive Applications," *2000 IEEE Power Electronics Specialists Conference*, Galway, Ireland, June 2000, pp. 689-695.

21. D. J. Perreault and V. Caliskan, "A New Design for Automotive Alternators," SAE Paper 2000-01-C084, *2000 International Congress on Transportation Electronics (Convergence 2000)*, Detroit, MI, Oct. 2000, pp. 583-594.
22. J.G. Kassakian and D.J. Perreault, "The Future of Electronics in Automobiles" (invited), *2001 International Symposium on Power Semiconductor Devices and IC's*, Osaka, Japan, June 2001, pp. 15-19.
23. G. Escobar, A.M. Stankovic, and D.J. Perreault, "Regulation and Compensation of Source Harmonics for the Boost-Converter Based Power Factor Precompensator," *2001 IEEE Power Electronics Specialists Conference*, Vancouver, Canada, June 2001, pp. 539-544.
24. A.C. Chow and D.J. Perreault, "Design of an Active Ripple Filter using Voltage Injection," *2001 IEEE Power Electronics Specialists Conference*, Vancouver, Canada, June 2001, pp. 390-397.
25. J.W. Phinney and D.J. Perreault, "Filters with Active Tuning for Power Applications," *2001 IEEE Power Electronics Specialists Conference*, Vancouver, Canada, June 2001, pp. 363-370.
26. T.C. Neugebauer, D.J. Perreault, J.H. Lang, C. Livermore, and S.D. Umans, "A Six-Phase Multilevel Inverter for MEMS Electrostatic Induction Micromotors," *2002 IEEE Power Electronics Specialists Conference*, Cairns, Australia, June 2002, pp. 695-670.
27. T.C. Neugebauer, J.W. Phinney, and D.J. Perreault, "Filters and Components with Inductance Cancellation," *2002 IEEE Industry Applications Society Annual Meeting*, Pittsburgh, PA, October 2002, pp. 939-947.
28. A.C. Chow and D.J. Perreault, "Active EMI Filters for Automotive Motor Drives," *2002 IEEE Workshop on Power Electronics in Transportation*, Auburn Hills, MI, October 2002, pp. 127-134.
29. W.S. Chang, T.A. Parlikar, M.D. Seeman, D.J. Perreault, J.G. Kassakian, and T.A. Keim, "A New Electromagnetic Valve Actuator," *2002 IEEE Workshop on Power Electronics in Transportation*, Auburn Hills, MI, October 2002, pp. 109-118.
30. G. Hassan, D.J. Perreault, and T.A. Keim, "Design of Dual-Output Alternators with Switched-Mode Rectification," *2003 IEEE Power Electronics Specialists Conference*, Acapulco, Mexico, June 2003, pp. 1992-2000.
31. J.M. Rivas, T.A. Keim, and D.J. Perreault, "Performance Improvement of Alternators with Switched-Mode Rectifiers," *2003 IEEE Power Electronics Specialists Conference*, Acapulco, Mexico, June 2003, pp. 1984-1991.
32. T.C. Neugebauer and D.J. Perreault, "Filters with Inductance Cancellation using Printed Circuit Board Transformers," *2003 IEEE Power Electronics Specialists Conference*, Acapulco, Mexico, June 2003, pp. 272-282.
33. S.C. Tang, T.A. Keim, and D.J. Perreault, "Thermal Modeling of Lundell Alternators," *2004 Power Engineering Society General Meeting*, Denver, CO, June 2004.
34. Y.H. Qiu, T.A. Parlikar, W.S. Chang, T.A. Keim, D.J. Perreault, and J.G. Kassakian, "Design and Experimental Evaluation of an Electromechanical Valve Drive," *2004*

- IEEE Power Electronics Specialists Conference*, Aachen, Germany, June 2004, pp. 4838-4843.
35. T.C. Neugebauer and D.J. Perreault, "Parasitic Capacitance Cancellation in Filter Inductors," *2004 IEEE Power Electronics Specialists Conference*, Aachen, Germany, June 2004, pp. 3102-3107.
 36. J.W. Phinney, J.H. Lang, and D.J. Perreault, "Multi-Resonant Microfabricated Inductors and Transformers," *2004 IEEE Power Electronics Specialists Conference*, Aachen, Germany, June 2004, pp. 4527-4536.
 37. J.M. Rivas, J. Shafran, R.S. Wahby, and D.J. Perreault, "New Architectures for Radio-Frequency dc/dc Power Conversion," *2004 IEEE Power Electronics Specialists Conference*, Aachen, Germany, June 2004, pp. 4074-4084.
 38. Y. Han, O. Leitermann, D. Jackson, J.M. Rivas, and D.J. Perreault, "Resistance Compression Networks for Resonant Power Conversion," *2005 IEEE Power Electronics Specialists Conference*, June 2005, pp. 1282-1292.
 39. D.S. Lymar, T.C. Neugebauer, and D.J. Perreault, "Coupled-Magnetic Filters with Adaptive Inductance Cancellation," *2005 IEEE Power Electronics Specialists Conference*, June 2005, pp. 590-600.
 40. I.M. Lorilla, T.A. Keim, J.H. Lang, and D.J. Perreault, "Topologies for Future Automotive Generators – Part I: Modeling and Analytics," *2005 IEEE Vehicle Power and Propulsion Conference*, pp. 819-830, Oct. 2005.
 41. I.M. Lorilla, T.A. Keim, J.H. Lang, and D.J. Perreault, "Topologies for Future Automotive Generators – Part II: Optimization," *2005 IEEE Vehicle Power and Propulsion Conference*, pp. 831-837, Oct. 2005.
 42. B.J. Pierquet, T.C. Neugebauer, and D.J. Perreault, "Inductance Compensation of Multiple Capacitors with Application to Common- and Differential-Mode Filters," *2006 IEEE Power Electronics Specialists Conference*, Jeju, Korea, pp. 2718 – 2727, June 2006.
 43. J.W. Phinney, D.J. Perreault, and J.H. Lang, "Synthesis of Lumped Transmission-Line Analogs," *2006 IEEE Power Electronics Specialists Conference*, Jeju, Korea, pp. 2967-2978, June 2006.
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PROFESSIONAL ACTIVITIES

Member of the IEEE Power Electronics Society Administrative Committee, Jan. 2002 – Present

Associate Editor, IEEE Power Electronics Letters, Jan. 2003 – Dec. 2005.

Associate Editor, IEEE Transactions on Power Electronics, Jan. 2006 – July 2008.

Guest Associate Editor, IEEE Transactions on Power Electronics Special Issue on Integrated Power Electronics, Jan. 2003 – Dec. 2004

Technical Program Co-Chair, 2009 IEEE Energy Conversion Congress and Exposition (ECCE’09)

Reviewer for a number of journals and conferences